

IN THE CLAIMS:

1. (CANCELED)
2. (Previously Presented) The method of claim 19, wherein the piezoelectric film is composed of aluminum nitride or zinc oxide.
3. (Previously Presented) The method of claim 19, wherein the patterned electrode is composed of aluminum or titanium.
4. (Previously Presented) The method of claim 19, wherein the substrate is composed of silicon or gallium arsenide.
5. (CANCELED)
6. (Currently Amended) The method of claim 19, wherein the second layer of material is formed by:
depositing a non-conductive layer after patterning the first conductive layer; and
planarizing the non-conducting layer by chemical mechanical polishing, polymer planarization, or polymer reflow with liftoff.
[the step of planarizing includes employing a chemical mechanical polishing process.]
7. (CANCEL)
8. (CANCEL)
9. (Currently Amended) The method of claim 19, wherein the second layer is a non-conducting layer that has a low dielectric constant.
10. (Currently Amended) The method of claim 19, wherein the [non-conducting] second layer is SiO₂.
- 11 – 18 (CANCELED)
19. (Currently Amended) A method of forming a thin film acoustic device, [the device including a patterned electrode with an edge and a height, the patterned electrode formed on a substrate and a piezoelectric film to be formed on the patterned electrode,] the method comprising the steps of:

forming a base electrode;
forming a second electrode;
forming a piezoelectric film between the base electrode and the second electrode
to enable application of an electric field to the piezoelectric film, wherein the foregoing is
accomplished by:

providing a substrate;
depositing and patterning a first conductive layer to define the base electrode with
an edge region having a first height relative to the substrate; and
placing a second layer of material over the substrate with a portion positioned
along the edge region of the base electrode, said portion having a height relative to the
substrate so as to eliminate or substantially reduce a step along the base electrode edge
region relative to the first height.

[depositing a non-conducting layer on the patterned electrode and substrate; and
planarizing the non-conducting layer so that the non-conducting layer has a height that is
equal to a height of the patterned electrode.]

20. (Currently Amended) The method of claim 19, wherein the step of
forming the piezoelectric film includes depositing [further comprising: forming] the
piezoelectric film on the patterned electrode and the second layer. [planarized non-
conducting layer.]

21. (Previously Presented) The method of claim 19, wherein the
piezoelectric film serves as a support membrane for the device.

22. (Currently Amended.) A method of forming a thin film acoustic device,
comprising:

forming a base [an] electrode on a substrate;
patterning the base electrode;
depositing a non-conducting layer on the patterned base electrode and substrate;
planarizing the non-conducting layer so that the non-conducting layer and
patterned base electrode form a continuous layer having a level surface; [and]

forming a piezoelectric layer on the level surface of the continuous layer; and forming a second electrode so that the piezoelectric layer is positioned between the base electrode and the second electrode to enable application of an electric field to the piezoelectric film.

23. (Previously Presented) The method of claim 22, wherein the level surface provided by the planarized non-conducting layer and patterned electrode improves the mechanical integrity of the piezoelectric layer by eliminating the edge of the patterned electrode.

24. (CANCEL)

25 (New) A piezoelectric device, comprising:

a substrate;

a base electrode formed over the substrate, including an edge region having a first height relative to the substrate;

a second layer of material positioned over the substrate with a portion positioned along the edge region of the base electrode, said portion having a height relative to the substrate so as to eliminate or substantially reduce a step along the base electrode edge region relative to the first height;

a second electrode; and

a piezoelectric film positioned between the base electrode and the second electrode to enable application of an electric field to the piezoelectric film.